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Global Agricultural Information Network

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Approved By:

Jonn Slette

Prepared By:

Joshua Emmanuel Lagos

Report Highlights:

In Bangladesh, most research and development (R&D) for seeds occurs in the public sector. Other seed varieties are imported to meet growing demand, such as vegetable seeds. In order to create a more robust seed market, more players may need to expand their R&D capabilities.

Executive Summary:

In Bangladesh, most R&D for seeds occurs in the public sector. These seed varieties are sold to state-owned enterprises and private companies for further multiplication and distribution. Other seed varieties are imported to meet growing demand, such as vegetable seeds. In order to create a more robust seed market, more players may need to expand their R&D capabilities.

General Information:

PUBLIC SECTOR PRODUCTION AND DISTRIBUTION

The Bangladesh Agricultural Development Corporation (BADC), a state-owned enterprise (see Government Oversight and Management section), produces rice, wheat, and maize seeds at 23 farms and 16 contract growing zones (production areas established through multiple farmer contracts), which are processed and preserved in 16 seed processing and preservation centers (SPC). Seed potatoes are produced at two farms and 16 contract growing zones, and preserved in 18 cold storage facilities (20,000 ton total capacity). Mustard, rape, groundnut, soybean, sunflower, lentil, black gram, mung bean, and chickpea seeds are produced at three farms and six contract growing zones, and are preserved in three SPCs. Other vegetable seeds and jute seeds are produced at two farms (Figure 2). The BADC purchases breeder seeds from National Agricultural Research System (NARS) institutions (see Government Oversight and Management section). These seeds are multiplied and sold to farmers at subsidized prices (i.e., seed prices do not cover total costs including production, processing, preservation, and marketing).

Table-1: Bangladesh: BADC Seed Production*

Sl. No.	Crop (tons)	2009-10	2010-11	2011-12	2012-13	2013-14
1(a)	Aus	777	941	1,716	3,040	1,371
1(b)	Aman	17,681	20,366	26,228	21,661	18,249
1(c)	Boro	44,417	57,815	63,839	60,522	59,056
1(d)	Hybrids	69	405	704	739	800
1	Rice Total	62,944	79,527	92,487	85,962	79,476
2	Wheat	23,429	26,961	27,304	18,882	24,997
3	Maize	40	85	296	184	256
4	Potato	13,987	18,148	19,624	19,321	21,084
5	Pulses	668	1,208	1,077	1,763	2,000
6	Oilseed	727	1,012	957	1,315	1,600
7	Vegetables	86	102	101	125	126
8	Jute	1,230	857	1,215	1,088	1,013
Total		103,111	127,900	143,061	128,640	130,552

* Net after processing

Source: BADC, 2014

Figure-1: Bangladesh: BADC Seed Supply Flow Chart

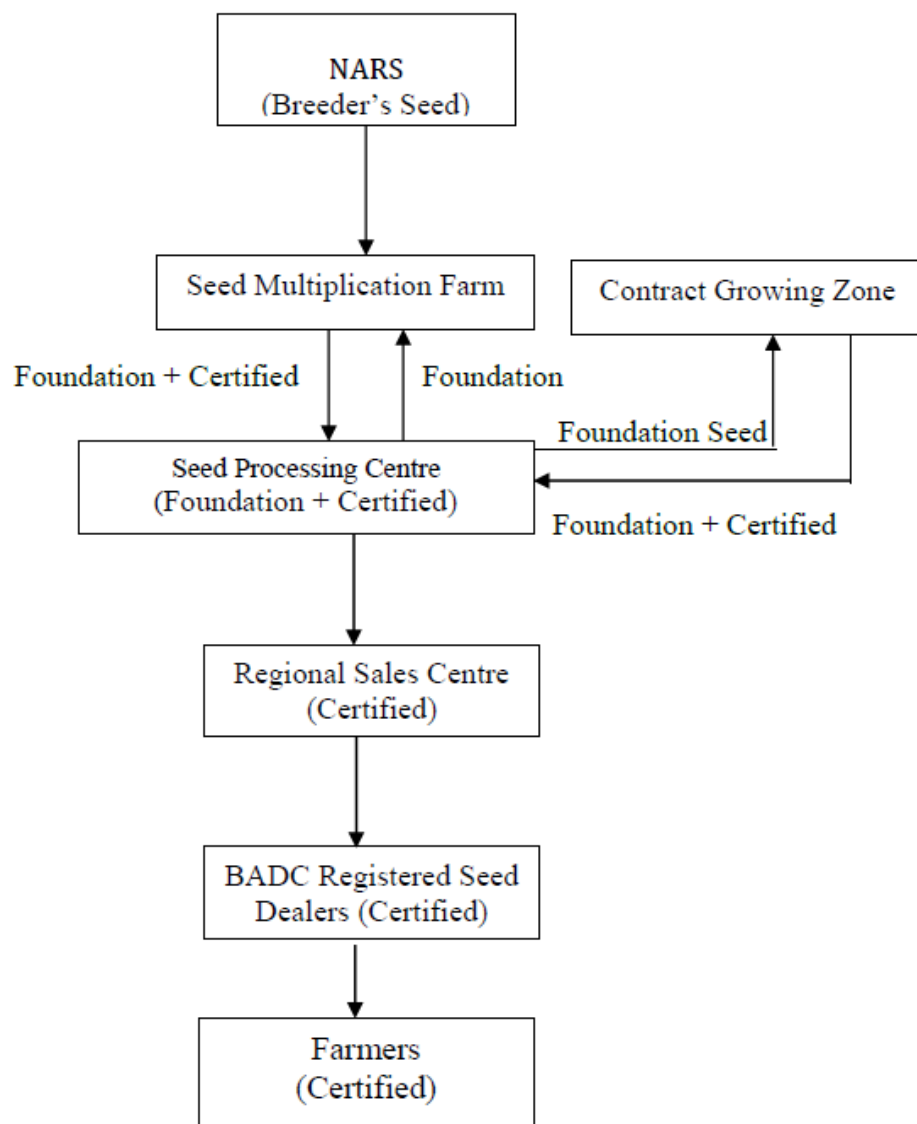
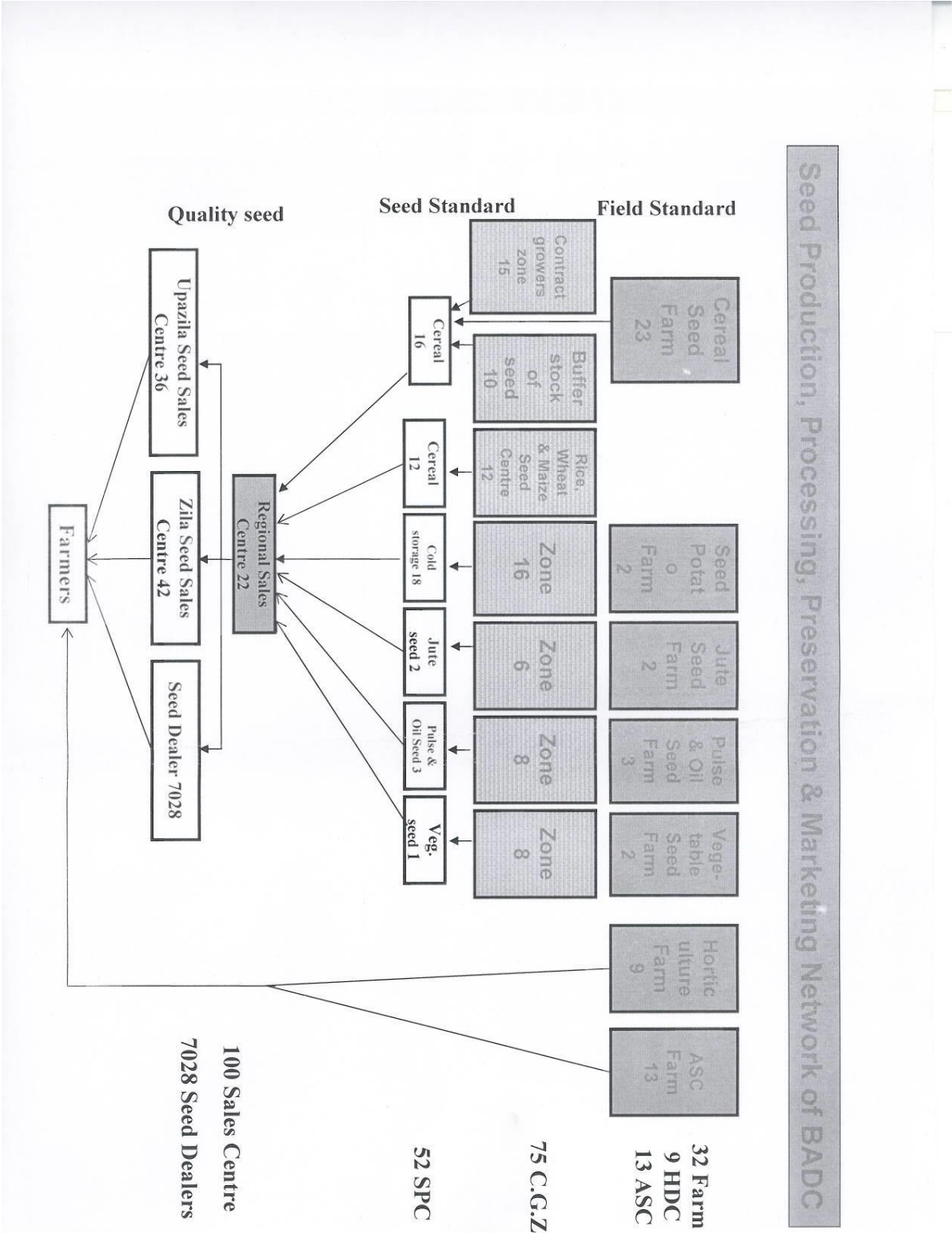


Figure-2: Bangladesh: BADC Seed Production, Processing, and Marketing Facilities



PRIVATE SECTOR PRODUCTION AND DISTRIBUTION

From the late 1970's to early 1990's, the Bangladeshi private sector primarily focused on purchasing and reselling vegetable seeds to local farmers, and selling imported seeds from Japan, the Netherlands, Great Britain, and India. Today, according to the Ministry of Agriculture (MOA), there are over 150 seed companies and 17,500 registered seed dealers. Approximately 15 of these private companies sell seeds on a national scale, and have established their own seed production and processing facilities. However, only ten companies conduct their own seed research, which is primarily focused on vegetables, maize, and rice hybrid seed varieties. Because most private seed businesses do not have their own research departments, many purchase breeder seeds from NARS institutes for seed multiplication. Some companies import and sell foreign seed varieties, or produce hybrid varieties from imported parent lines (acquired through licensing agreements) for domestic and export sale. A few companies have seed testing laboratories, but none to date have International Seed Testing Association (ISTA) accreditation. Nongovernmental organizations are also multiplying and selling seeds to fund development projects in Bangladesh.

Reportedly, small and medium-sized companies and NGOs primarily produce open-pollinated (OP) rice (high yielding varieties) and vegetables seeds, and seed potatoes. Maize, rice, and vegetable hybrid seeds are primarily produced by large companies.

According to contacts, seed companies from India, China, Japan, Australia, the Netherlands, the Philippines, Thailand, the United States, Germany, South Korea, New Zealand, and Vietnam are exploring joint ventures or other arrangements with local seed businesses.

Private sector seed associations, on behalf of members, lobby the government on seed industry issues and policies. Two seed associations, the Bangladesh Seed Association and the Seedmen's Society of Bangladesh (*sic*), are currently voting members in the National Seed Board (see Government Oversight and Management section). Other associations include the Seed Merchants' Association and Seed Growers and Merchant Association.

Table-2: Bangladesh: Private Sector Seed Production

Sl. No.	Crop (tons)	MY 2011/12*	MY 2012/13*	MY 2013/14*
1(a)	Rice (HYV)	25,000	32,000	35,000
1(b)	Rice (Hybrid)	3,000	5,000	6,500
1(c)	Rice (LV)	0	0	0
1	Rice (Total)	28,000	37,000	41,500
2	Wheat	0	0	0
3	Maize (Hybrid)	1,500	2,500	3,000
4	Potato	45,000	48,000	50,000
5	Pulses	0	0	0
6	Oilseed	0	0	0
7	Vegetables	2,800	3,000	3,200
8	Jute	0	0	0
Total		77,300	90,500	97,700

Source: Private Sector Interviews

*Marketing Year: July-June

Table-3: Bangladesh: Marketing and Distribution Comparisons

Public Sector	Private Sector
<ul style="list-style-type: none"> • Dealers pay cash to acquire seeds. • Seed cannot be sold higher than the printed price; • Dealers bear the transportation cost from BADC distribution points to retail outlets; • Poor/unattractive packaging; • Large package sizes not suitable for small farmers. 	<ul style="list-style-type: none"> • Dealers can acquire seeds on credit. • Pricing is based on market demand and not fixed; • Attractive packaging • Small package sizes suitable for small farmers;

SEED IMPORTS

Seed imports are duty free, but require an import permit. *Notified* crops (See Seed Laws and Regulations section below) may also be imported for research with permission from the MOA. According to contacts, high demand for vegetable seed imports is due to low domestic research and development.

Table-4: Bangladesh: Seed Imports by Private sector; Hybrid Corn Seed Rises

Seed (tons)	MY 2011/12*	MY 2012/13*	MY 2013/14*	Major Country of Origin
Rice (Hybrids)	3,235	2,579	1,797**	China, India
Corn (Hybrids)	5,418	4,418	6,260	India, Thailand, China,
Vegetable Seed (Hybrids)	1,185	1,212	977	India, China, Japan, Thailand, South Korea, New Zealand
Seed Potato	5,940	5,079	1,440	The Netherlands, India, Germany, Belgium

Source: Global Trade Atlas

* Marketing Year: July-June

** July 2013-May 2014

OVERALL SEED SUPPLIES AND DEMAND

Data from the MOA Seed Wing (below) provide a preliminary sketch of the seed market. Although not clearly demarcated in Table 5, Post contacts believe that a large number of farmers store seeds for future marketing years. Use of stored seed is especially common for self-pollinating crops like rice, wheat, pulses, and oilseeds.

Table-5: Bangladesh: Seed Demand and Market Supplies (2012-13)

Crop	Seed Demand	Seed Supply (Tons)			Seed Supply (Percent)		
	(Tons)	BADC	Private	Total	BADC	Private	Total
Rice (HYV)	225,625	70,255	30,900	101,155	31.1	13.7	44.8
Rice (Hybrid)	13,200	739	7,900	8,639	5.6	59.8	65.4
Rice (LV)	66,800	0	0	0	0.0	0.0	0.0
Rice (Total)	305,625	70,994	38,800	109,794	23.2	12.7	35.9
Wheat	55,500	18,807	0	18,807	33.9	0.0	33.9
Maize	7,800	184	6,000	6,184	2.4	76.9	79.3
Jute	4,600	650	3,000	3,650	14.1	65.2	79.3
Oilseeds	17,250	1,315	30	1,345	7.6	0.2	7.8
Pulses	23,300	1,763	0	1,763	7.6	0.0	7.6
Vegetables	4,500	125	2,800	2,925	2.8	62.2	65.0
Potatoes	675,000	16,110	45,000	61,110	2.4	6.7	9.1
Spices	161,000	113	110	223	0.1	0.1	0.1
Total	1,560,200	110,061	95,740	205,801	7.1	6.1	13.2

Source: Seed Wing, MOA

Wheat

Reportedly, the BADC is the sole supplier of wheat seeds. Due to high preservation costs and low margins, the private sector has not entered the market. Many farmers store wheat seeds for future crop seasons.

Maize

According to contacts, strong demand from the feed industry has instigated research on new hybrid maize varieties. BADC has recently started marketing locally developed hybrid maize seeds.

Jute

Jute seeds are purchased on an annual basis and usually not stored on-farm. The private sector reportedly has the largest market share, selling imported seeds from India.

Pulses and Oilseeds

Because most pulse and oilseed seeds are OP, most farmers save seeds on-farm. The private sector sells a small quantity of hybrid sunflower and soybean seeds.

Vegetables

The private sector has a large market share in the vegetable seed market, selling imported hybrid seeds such as cauliflower, cabbage, tomatoes, carrots, and capsicum, as well as watermelon and hybrid flowers. Locally produced hybrids and OP seed varieties are also sold, such as okra, long beans, bitter gourd, snake gourd, and cucumbers.

Potatoes

Strong domestic and third country demand has influenced farmers to increase potato acreage. Larger farms and private traders save seed potatoes in cold storage and later sell it on the open market.

GOVERNMENT OVERSIGHT AND MANAGEMENT

Ministry of Agriculture (MOA): The MOA is responsible for developing and implementing policies, regulations, and programs for the seed sector. All of the below organizations fall under the purview of MOA:

- a. **Seed Wing:** The Seed Wing develops national seed policies and has oversight over all MOA organizations seed sector programs. The Seed Wing is led by a director general who is assisted by one chief seed technologist and two assistant seed technologists.
- b. **National Seed Board (NSB):** The NSB provides recommendations on seed regulations, standards, and policies, including whether to commercially release or register new seed varieties. NSB decisions concerning variety release are published in the official gazette. The secretary of the MOA is the chairman of the board, and the director general of the Seed Wing at MOA is the member secretary. The NSB generally meets biannually.
- c. **Seed Certification Agency (SCA):** The SCA provides seed certification, testing, and field inspection, although this is only required for public sector breeder and foundation seeds. It has 32 field offices and two laboratories; these labs do not have ISTA accreditation.

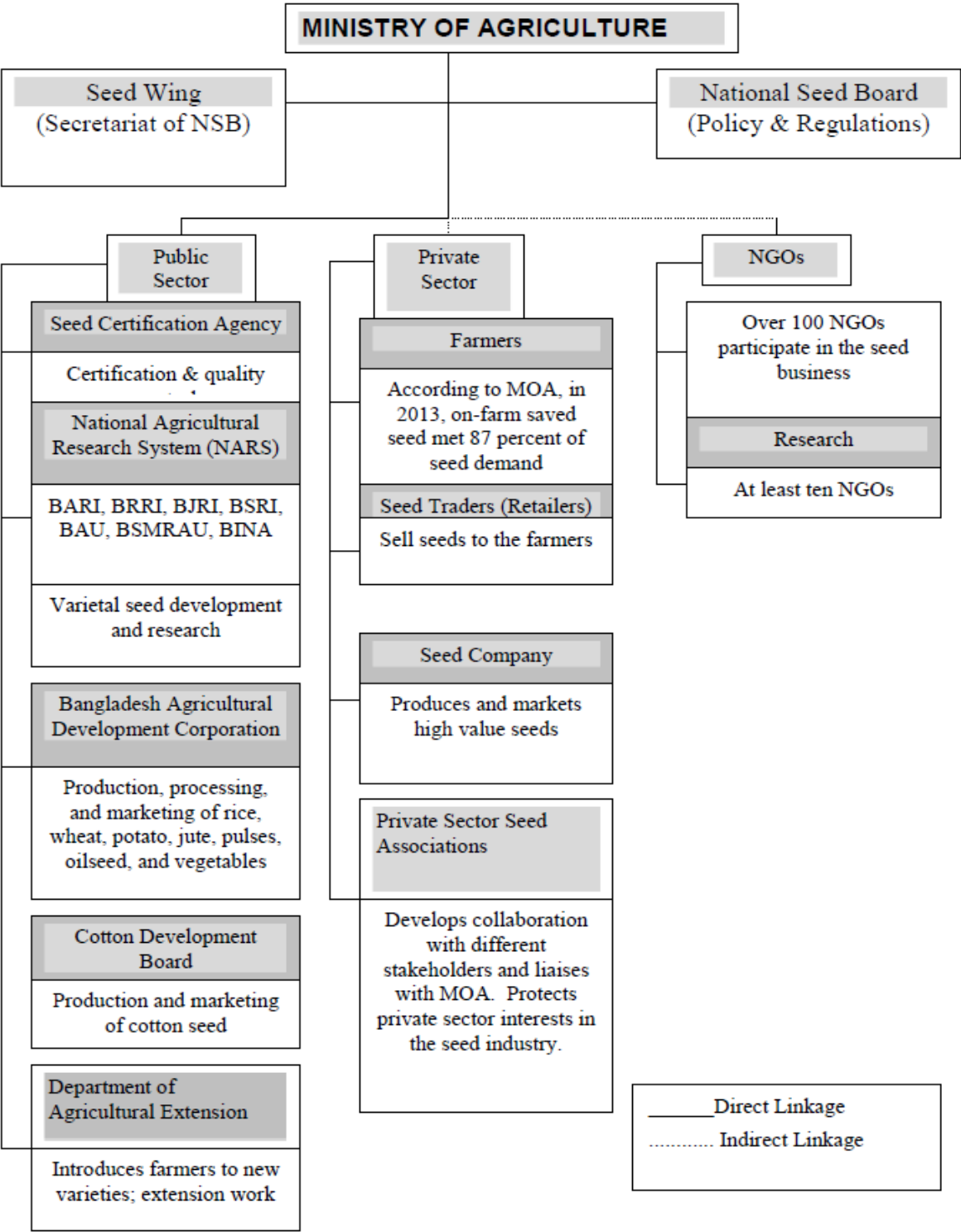
- d. **Bangladesh Agricultural Development Corporation (BADC):** In 1962, Bangladesh Agricultural Input Supply Corporation (BAISD) was established with a mandate to produce, process, preserve, and distribute quality seed, as well as supply fertilizer and irrigation equipment. In 1973, BAISD was renamed the BADC, and eventually changed its responsibilities to seed multiplication, processing, and marketing. The BADC, a state-owned enterprise, has 31 farms, 28 seed processing centers, 12 cold storage warehouses, and 100 seed sale centers all over the country. It primarily focuses on producing OP seed varieties.
- e. **Seed Promotion Committee (SPC):** The SPC, located within the MOA, determines the variety and quantity of seeds the BADC will produce every year. This recommendation is based on Department of Agricultural Extension (DAE) assessments and historical seed sales.
- f. **National Agricultural Research System (NARS):** All of Bangladesh's public research institutions fall under the NARS network. The Bangladesh Agricultural Research Council (BARC) supervises and monitors activities in the NARS network. Currently, five of the 11 public sector research institutes are engaged in seed research (see Table-6 below).

Table-6: Bangladesh: Public Sector Research Institutes Engaged in Seed Research

Institutes	Year of Establishment	Area of Seed Research
Bangladesh Agricultural Research Institute (BARI)	1976	Wheat, potatoes, pulses, oilseeds, flowers, vegetables, and fruit
Bangladesh Rice Research Institute (BRRI)	1970	Rice
Bangladesh Institute of Nuclear Agriculture (BINA)	1961	Rice, pulses, oilseeds, jute, and vegetables
Bangladesh Jute Research Institute (BJRI)	1951	Jute
Bangladesh Sugarcane Research Institute (BSRI)	1951	Sugarcane

- g. **Cotton Development Board (CDB):** The CDB is responsible for cotton seed variety development, production, and distribution/sales to farmers. It has two cotton research and seed multiplication farms. The CDB generally imports cotton seed varieties and conducts field trials before registration and commercialization.
- h. **Department of Agricultural Extension (DAE):** DAE is responsible for disseminating agricultural knowledge to farmers, such as new seed varieties developed under NARS. It also evaluates varieties undergoing field trials and builds awareness through model farms.
- i. **The Plant Protection Wing:** Located within DAE, the Plant Protection Wing is responsible for enforcing phytosanitary requirements for seed imports. Bangladesh has 27 entry points (2 seaports, 3 airports, 21 land ports, and 1 rail port).

Figure 3: Bangladesh: Public and Private Sector Roles and Interconnectivity



SEED LAWS AND REGULATIONS

After independence, the GOB created the first major seed law: Seeds Ordinance, 1977, which focused only on public sector seed activities. Eventually, the GOB passed amendments to Seeds Ordinance, 1977 that expanded regulatory oversight over both the private and public sector, and all seed varieties (e.g., *notified* seed varieties include rice, wheat, jute, potatoes, and sugarcane; *non-notified* seeds include all other seed varieties). For further information, please see FAS GAIN report [BG4010](#).

Intellectual Property Rights (IPR)

Bangladesh does not have intellectual property rights laws or regulations. A draft law entitled Plant Variety Protection and Farmers' Rights Act has still not received approval in Parliament.

Phytosanitary Requirements

Bangladesh Destructive Insects and Pests Rules, 1966 (Plant Quarantine) (amended up to 1989) prohibit plant and plant product imports that are a vector for diseases or pests which are destructive to Bangladeshi agriculture. The Rules also provide specific phytosanitary requirements for seed imports.

The GOB has adopted a new Plant Quarantine Act, 2011 (not available in English) repealing the Destructive Insect and Pests Act, 1914 (II of 1914). The Ministry of Agriculture is currently drafting Rules (regulations) to implement Plant Quarantine Act, 2011.

Destructive Insects and Pests Rules, 1966 (Plant Quarantine) and the Plant Quarantine Act, 2011 are available at: <http://www.dae.gov.bd/Acts&Reg/>

Seed Variety Registration Procedures

a. *Notified* seed variety registration:

- Applications for *notified* seed variety registration (see Form 1 in the Seed Rules, 1998) have to be submitted to the secretary general of the NSB (who also serves as the director general of the Seed Wing at MOA).
- The NSB sends applications to the Technical Committee, which is headed by the Executive Vice-Chairman of the BARC, and includes representatives from the NARS, SCA, DAE, BADC, private sector seed growers, and farmers' associations.
- The Technical Committee examines the application and provides a written analysis and recommendation to the NSB.
- Based on the report and recommendation, the NSB decides whether to issue a certification of registration.

b. *Non-notified* seed variety registration:

- Applications for *non-notified* seed variety registration (called the Application for Registration of Non-notified Crops to the NSB) are available at the Seed Wing in the MOA.
- *Non-notified* seed varieties do not require further testing or other evaluations.
- The Seed Wing at MOA reviews the applications, and on behalf of the NSB issues a certificate of registration if the application meets certain criteria, such as whether the seed variety demonstrates novel characteristics.

c. ***Notified and non-notified seed variety deregistration:***

- In case any seed variety is harmful or potentially harmful to the country's agriculture, the NSB may de-registrar the variety and prohibit sales.

Genetically Engineered (GE) Seeds

Although all aforementioned seed laws, policies, and regulations do not mention GE seeds, the Bangladesh Biosafety Rules, 2012 note that all GE products need to be approved before importation. The GOB has approved and officially released four *Bacillus thuringiensis* (*Bt*) eggplant varieties on a limited commercial scale. For further information on agricultural biotechnology regulations in Bangladesh, please see the Agricultural Biotechnology Annual, 2014 ([BG4008](#)), which is accessible in the FAS GAIN reporting system.